

A Comparison of Tunisian and French Consumers' Adoption of E-commerce

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ABSTRACT: *Electronic commerce is often touted as a global phenomenon that has known its growth especially in the developed countries. However, developing countries in general and Tunisia in particular have fallen far below expectations. The noticed statistics don't overtake a simple regulation of bills. The research in hand tends to put the accent on variables that are expected to explain the e-commerce adoption. Using dimensions of national culture and attitude as theoretical bases, this research investigates the weight of culture in the explanation of individual's behavior concerning shopping from the site. Results indicate at first glance that both Tunisian and French samples present relatively the same rate of cultural importance in their attitude towards shopping from the site (28.3% vs. 20.7%). Secondly, similar to literature, the attitude is the predictor of the intention to shop from the site and the intention succeeds to be the intermediary variable between attitude and behavior especially for the Tunisian sample. As a consequence, when the attitude is positive, it will be transformed in an intention which in turn will be translated into a behavior.*

Keywords: National Culture, Power Distance, Uncertainty Avoidance, Individualism vs. Collectivism, Femininity vs. Masculinity, Long-term vs. Short-term Orientation, Attitude, Intention, e-commerce

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1. Introduction

The study of online consumer behavior in various regions of the world has shown that there are a lot of differences in the way distinct people use the Internet and e-commerce which is largely due to their habits and cultures. Consequently, the study of consumers' adoption of e-commerce in an inter-cultural context has indicated that culture does affect behavioral intentions and actual behaviors (Jarvenpaa and Tractinsky, 1999; Choi and Getsfield, 2003). The cultural influence has played a major role in consumers' decision-making as discussed extensively in the literature (Henny, 1976; McCort and Malhotra, 1993; Tse et al. 1988). Most of these studies have shown that culture plays a significant role in individual's decision-making since it affects attitudes, norms and other cognitive processes.

In this paper, we would try to shed light on the differences between developed and developing countries concerning the e-commerce adoption using culture as an explanatory variable. The approach that we select to study the effects of culture is the one that includes Hofstede's national cultural dimensions. The latter are the most commonly used. Indeed, they facilitate national-level analysis and allow multiple comparisons between countries (Al-Ghahtani et al., 2007). Furthermore, Hofstede's cultural dimensions have been used to explore the impact of cultural differences on technology acceptance (Straub et al., 1997). These dimensions are individualism/collectivism, masculinity/femininity, uncertainty avoidance, power distance, and long-term/short-term orientation.

2. E-commerce in developed and developing countries

Businesses in developing countries face many challenges (Shemi and Procter, 2013) compared to the developed ones. In fact, they suffer from many deficiencies. We can notably point to the non-availability of good infrastructures and the high cost of accessing them. However, the developed countries have employed a relatively advanced, accessible and affordable infrastructure.

“The low level of information and communications technology (ICT) diffusion in economy can also limit the level of e-Commerce awareness, a factor taken for granted in the developed countries. In addition, in most developing countries, Internet use and e-Commerce practices have yet to reach a critical mass for the network externalities to take effect and encourage businesses to opt for e-Commerce innovations” (Oxley, and Yeung, 2000).

Statistically, a total of 24.4 million French online shoppers, representing an increase of 2.1 million new cyber consumers in a year, is registered during 2009 (Fevad, 2009). This number skyrocketed to reach 31.7 million Internet users in the second quarter of 2012 according to Médiamétrie’s Observatoire des Usages Internet. This represented a 4% annual increase. In 2012, the number of cyber merchants achieved a new record with 66.800 active merchant sites compared to 64,100 in 2009. Around 17.000 new active merchant sites were thus created. Almost two merchant sites are created every hour in France. Unfortunately, compared to this developed country, the diffusion of online shopping has fallen far below expectations in developing countries (UNCTAD, 2003) in general and Tunisia in particular.

In terms of Information and Communication Technology, Tunisia has provided a good infrastructure. It provides 12 Internet service providers, 08 development centers serving multinationals, a telephone density of 98.8 lines per 100 inhabitants, over 3 million Internet users with an annual growth of 38%, 184 certified auditors in the field of computer security, 07 cyber parks spread over several regions and 07 others nearing completion (FIPA Tunisia, 2009). Added to that, in July 2009 and in order to contribute to the development of electronic commerce and the electronic payment, the Tunisian post launched a new financial product “*SICAVTANIT*” enabling particulars and companies to fructify their money through a new intelligent card “*e-Dinar Smart*” which is a so secured card as well as multi-uses. This card enables to execute 108000 e-payment operations as well as the regulation of approximately 30000 online shopping operations through tradesman along with equipped stores of terminal electronic payment (TEP).

In addition, the State led a program in order to sensitize people to grasp the importance of Internet in all walks of life. As far as e-learning is concerned, the virtual schools of the Tunisian post office knew invaluable dynamics according to the FIPA (2009).

This infrastructure, despite its importance, does not have any noteworthy effect on the individuals’ behavior. In fact, the volume of transactions via Internet except the bill payment is still very weak not to say totally absent. Only 2% of the 20 432 971 transactions in general (bill payment, internal transactions and electronic transactions) were achieved in the field of online shopping via the SPS plate-form while 22.45% of 26 230 000 of the total transactions (bill payment, and external transactions at the same time) have been registered for electronic transactions via the e-dinar solution (Tunisian post-office, 2009).

3. Theoretical background

3.1 Culture

According to Hofstede (1983), culture is a “*collective mental programming: it’s that part of our conditioning that we share with other members of our nation, region or group but not with other nations, regions or groups.*”

In this context, culture is viewed as a collective mental knowledge developed by a group of people exposed to a similar context (Geertz 1973; Reckwitz 2000; Schatzki and Natter 1996). The collective mental knowledge concerns the way societies or communities organize knowledge and social behavior (Kroeber and Kluckhohn 1952). They are acquired in early childhood and may endure or influence culture throughout life. Thus, “*everyone has his mode of thought, of feeling, and of potential action that are the result of a continuous training, and of a mental programming, that is to say from generally non conscious conditioning*” (Hofstede, 2005).

Five independent dimensions of national culture representing “*fundamental problems of society*” are highlighted by Hofstede (1980). These dimensions are power distance, uncertainty avoidance, individualism–collectivism, and masculinity–femininity,

and long-term-short-term orientation.

Power distance refers to “*the extent to which the less powerful members of institutions and organizations within a country expect and accept that power is distributed unequally. Otherwise said, it referred to the different solutions to the basic problem of human inequality*” (Hofstede, 2001).

Uncertainty avoidance pertains to “*the extent to which a society feels threatened by uncertain and ambiguous situations and tries to avoid these situations by providing greater career stability, establishing more formal rules, not tolerating deviant ideas and behaviors, and believing in absolute truths and the attainment of the expertise*” (Hofstede, 1980).

The individualism/collectivism component of national culture represents the awareness and importance that the individual accords to himself or to the group in which he evolves (Hofstede, 1983, 1991).

Masculinity versus Femininity refers to the “*division of emotional roles between men and women*” (Hofstede, 2001). Masculinity and femininity stem from socialization processes and should be viewed as poles of a continuum (Alves et al. 2006). Masculinity refers to societies that value assertiveness, toughness, material and economic aspects of life (Alves et al., 2006). On the other hand, femininity represents cultures that emphasize nurturing, care for others, social relationships and quality of life (Alves et al., 2006).

Long-Term/Short-Term Orientation is related to the “*choice of focus for people’s efforts: the future or the present*” (Hofstede, 2001). Differently said, it refers to whether people’s time focus is long-term or short-term oriented. Long-term orientation refers to “*the fostering of virtues oriented towards future rewards, in particular, perseverance and thrift*” (Hofstede, 2001). Short-term orientation, its opposite pole, refers to past and present-oriented values such as respect for tradition (Ergeneli et al., 2007).

3.2 Attitudes

Attitudes are one of the most studied concepts in the consumer behavior (Belch and Belch, 1995). They have been the crux of attention for many decades. In his classic definition of attitude, Allport (1935) states that “*attitudes are learned as predispositions to respond to an object.*”

These attitudes can be favorable or unfavorable. For example, Davis et al., (1989), Zanna and Pempel (1988), and Han (2003) define attitudes as “*an individual’s positive or negative feelings (evaluative effect) about performing the target behavior or user’s evaluation of the desirability of his or her system use.*” In the same vein, Ajzen’s and Fishbein’s Theory of Reasoned Action (1980), shows that attitudes can be considered as “*the degree to which one has a positive versus a negative evaluation of the behavior.*” Briefly, they represent a favourable or unfavourable feeling of an individual toward a behavior. On the one hand, they are formed through a relative belief in behaviors’ engagement. On the other hand, they are shaped through consequences’ (outcomes) evaluation of such an engagement (Fishbein and Ajzen, 1980).

Two theoretical orientations are considered to classify attitudes. The first distinguishes three components of attitudes which are cognitive, affective and conative. All of them are conceived of as an integral part of the attitude. According to this classification, they constitute a coherent ‘*gestalt.*’

The second approach is the uni-dimensional one of the attitude which is limited to just the affective component. Therefore, the cognitive component is an antecedent and the conative one is the consequence of attitude (Fishbein and Ajzen, 1975). In their theory of Reasoned Action, Fishbein and Ajzen (1975) distinguish the affective component of attitude from the cognitive and conative ones: a thing that makes them different from other researchers.

In this study, while it is generally accepted that attitudes are comprised of three components that is cognitive (knowledge and thought about an attitude object), affective (feeling and evaluation) and conative (behavioral tendencies), it is the affective component that is usually referred to when the word “*attitude*” is used. In conclusion, similar to Chen and Well (1999), we define attitude as “*website user’s predisposition to respond favorably or unfavorably to the site*”.

3.3 Intentions

Consistent with Fishbein (1980), Ajzen (1988) highlights that intentions are indications of “*how hard people are willing to try*

of how much of an effort they are planning to exert in order to perform the behavior. These intentions remain behavioral dispositions until at the appropriate time and opportunity an attempt is made to translate the intention into an action.”

Intentions are then more than simple illusory desires about possible behaviors (Kohley, 2002). “They are, rather, dedications to perform certain specified actions within a given time period. The more certainly, these intentions are expressed the more likely; it is that the respondent will pursue those intentions” (Kohley, 2002).

French (1996) agrees that a “definition of intentions cannot simply be desires or wishes although he has not always held that opinion. He explained that at the base of his earlier view, intention was the widely-held position that intentionally should be understood in terms of a desire/belief complex. That position is flawed. Indeed, it is downright wrong. To intend to do something is to plan to do it ... In fact, desires and beliefs are, at most only tangentially involved. My plans and my commitments to those plans are at the heart of my intentions.”

While this view is quite logical, it is stricter than the one proposed by Ajzen and Fishbein (1980). They do not measure intentions by visible or observable plans or preparations. The link to behaviors would probably be much stronger if the model did employ this strategy.

In sum, during this study we keep the definition developed by Ajzen (1991) where intention is presented as “an indication of how hard people are willing to try, or how much of an effort they are planning to exert, in order to perform a behaviour.”

4. Conceptual framework and hypotheses development

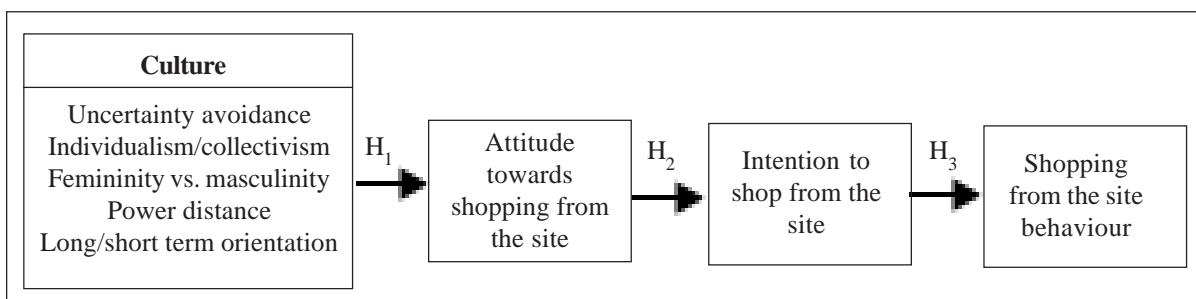


Figure 1. Research model

4.1 The effect of culture dimensions on the attitude towards shopping from the site

4.1.1 The Effect of Uncertainty Avoidance on the Attitude towards Shopping from the Site

Internet shopping is characterized by a higher level of uncertainty and risk compared to the physical store. It is also still highly unregulated and lacks a formal legal structure or a system to protect potential shoppers (McKnight et al., 2002). This situation can be explained by the fact that the Internet or online shopping is a new activity for most people and the transactions are conducted in a virtual environment without the physical assurances of traditional shopping experiences (Lim, Leung, Sia and Lee, 2004).

Thus, if we unveil the relationship between online shopping and uncertainty avoidance, we find that they are ultimately and significantly linked. This result has been proved by many researchers (e.g. Hofstede, 1991; Doney et al., 1998; Park, 1993; Keil et al., 2000; Lee et al., 2004).

Taking into consideration now the effect of a higher/lower level of uncertainty avoidance on shopping via Internet, Kale and Barnes (1992) find out that people from cultures with high uncertainty avoidance levels have lower tolerance for uncertainty, higher needs for structure (i.e., formal rules and regulations), stronger faith in institutions (e.g., the government) and show a strong resistance to change than people from cultures with low uncertainty avoidance levels (Hofstede, 1991; Doney et al., 1998) who do not fear the future and exhibit lower change resistance (Kale, 1991; Ueno and Sekaran, 1992; Nakata and Sivakumar, 1996).

As a consequence, it is reasonable to expect that people in high uncertainty avoidance cultures are more likely to resist online

buying or from a particular site than people in low uncertainty avoidance cultures who would generally view Internet shopping more favorably (Lee et al., 2004).

Therefore,

Hypothesis_{2a1}: Higher uncertainty avoidance cultures influence negatively the attitude towards shopping from the site.

Hypothesis_{2a2}: Lower uncertainty avoidance cultures influence positively and strongly the attitude towards shopping from the site.

4.1.2 The Effect of Power Distance (Pd) on the Attitude towards Shopping from the Site

Hofstede (1984) states that countries with high level of power distance are characterized by the fact that superiors exercise power while subordinates are passive; they simply follow their superiors without objections. Thus, they have no objections to give them an idea about their personal information (a necessary characteristic to achieve online transaction). Besides, in regions with high levels of power distance index (PDI), people are more comfortable with a larger status differential than countries with low power distance (Hofstede, 1984). A culture with a very hierarchical structure means that people feel less empowered or do not have the same privileges and authority as the few who have a status (Yap et al., 2006).

“The principle of e-commerce may run counter to power structures because e-commerce is about consumer empowerment, information freedom, and the power of choice. With e-commerce, consumers have the power to choose what, where, when and from whom they want to buy” (Yap et al., 2006). *“In the domain of B to B e-commerce for example, cultures with high power distance may not be very comfortable with the introduction of e-commerce because the empowerment afforded by it can go against the norms of their culture and power structure. This could lead to some resistance toward e-commerce diffusion. Alternatively, countries with low power distance, could adopt it faster since the empowerment that comes with e-commerce is congruent with cultural characteristics”* (Cao and Everard, 2007).

Coming back now to the B to C e-commerce context, Moon, Chadee and Tikoo (2008) argue that the attitude towards Internet shopping and consequently consumer intention to online purchase will be stronger for consumers of less power-distant countries than for those of more power-distant countries. They explain this result by hinging on two reasons. First of all, people belonging to societies with a high degree of PD tend to be less innovative. Secondly, customers from high PDI countries express less trust towards a service provider than do customers from low PDI countries who are independent and need more technology literature (Shaffer and O’Hara, 1995). Therefore, we expect that:

Hypothesis_{2b1}: Lower power distance cultures influence positively the attitude towards shopping from the site.

Hypothesis_{2b2}: Higher power distance countries influence negatively the attitude towards shopping from the site.

4.1.3 The Effect of Masculinity Versus Femininity (MAS/FEM) on the Attitude towards Shopping from the Site

The significance of this relationship is demonstrated in the literature. In a study about the United States and Canada, Gefen and Straub (1997) and Hofstede (2001) claim that American women should express greater concern for quality of life over money and material things and a greater importance attached to relationships than American men. Thus, if we try to compare the masculinity’s to femininity’s culture, Lipert and Volkmar (2007) advance that culture low in masculinity (e.g. Canada) is characterized by a greater importance attached to relationship than in higher masculinity cultures (e.g. United States).

Since the lower masculinity cultures place greater emphasis on life quality and the working environment (Hofstede, 2001), it is stated that *“some attributes of a new technology should be more salient in a lower masculinity setting. In other words, lower masculinity cultures should be more inclined than higher masculinity cultures to notice, non-task attributes of a technology such as the fun and enjoyment from use”* (Lipert and Volkmar, 2007). In a higher masculinity environment, the utility of the technology is more narrowly defined in terms of task and functionality. Therefore, we expect that:

Hypothesis_{2c1}: Femininity (FEM) positively influences attitude towards shopping from the site.

Hypothesis_{2c2}: Masculinity (MAS) negatively influences attitude towards shopping from the site.

4.1.4 The Effect of Individualism Versus Collectivism on the Attitude towards Shopping from the Site

The individualism/collectivism component of national culture refers to the awareness and importance that the individual accords to his/her self or to the group in which he evolves (Hofstede, 1983, 1991). In individualistic cultures, the needs, values and goals of individuals take precedence over those of the group, whereas in collectivistic cultures the needs, values and goals of the group take precedence over those of the individual (Gudykunst, 1997). Besides, people who live in individualistic culture are more willing to provide personal information (which is needed for the fulfillment of the online transaction) while collectivistic users like protection of their personal information in order to prevent differentiating the individual from the group (Strohle, 2008).

In addition, Doney et al. (1998) argue that people in collectivist cultures are more likely to form trust via either a prediction or transference process. However, in individualist cultures people are more likely to form trust via a calculative process (for example, they might examine the web page, looking for the Internet vendor's recourse and refund policy and/or the existence of third-party certifications, etc. (Shek et al., 2003)). In fact, the problem that is posed here to collectivist people is the difficulty to form predictive trust based on prior experiences given that Internet/online shopping is a relatively new form of shopping characterized by difficult trust transference (Lim et al., 2004). As a consequence, online shopping would not be attractive to collectivists but appealing to individualists. Therefore, we expect that:

Hypothesis_{2,d.1}: Individualistic cultures influence positively and strongly the attitude towards shopping from the site.

Hypothesis_{2,d.2}: Collectivist cultures influence negatively the attitude towards shopping from the site.

4.1.5 The Impact of Long/Short Term Orientation (LTO/STO) on the Attitude Towards Shopping from the Site

On the one hand, LTO refers to *"the extent to which people are willing to delay their needs on the short-term for the benefit of the future gratifications. Values associated with that dimension are thrift, perseverance, being tenacious in pursuit of goals, being sensitive to social contacts and commitments"* (Hofstede, 1980; Hofstede and Bond, 1988; Tung, 1995). Thus, a high long-term orientation society is said to be more resistant to change (Rahmati, 2008). However, a low long-term orientation society is the one where traditions are not generally observed and thus are more receptive to change (International Business Centre, 2003). On the other hand, STO refers to past and present-oriented values such as respect for tradition (Hofstede, 2001). Contrary to belong term orientation, respect for tradition, fulfilling social obligations and protecting one's face are considered as values of short term orientation dimension (Hofstede, 1980; Hofstede and Bond, 1988; Tung, 1995). These values are more oriented towards the past and present rather than the future. Consequently and similarly to Apa (2008) we expect that:

Hypothesis_{2,e.1}: Long-Term Orientation (LTO) positively influences the attitude towards shopping from the site.

Hypothesis_{2,e.2}: Short-Term Orientation (STO) negatively influences the attitude towards shopping from the site.

4.2 The Effect of Attitude on The Intention to Shop from the Site

The relationship between the attitude and the intention is at the core of the Theory of Reasoned Action (TRA) (Ajzen and Fishbein 1980). The latter demonstrates the causal relationship between attitudes and behavioral intentions (Fishbein and Ajzen, 1995). In the same vein, attitude theories suggest that people who hold positive attitudes towards a behavior will be more likely to display this behavior (Siekpe, 2003). According to the TRA, a person's behavior is determined by his/her behavioral intentions which in turn is determined by a person's attitude toward such behavior [attitudes correlate more strongly with intention; $r = .58$ (Ajzen and Fishbein 1980)]. Additionally, in an information system literature, a person's intention to shop or to purchase online is seen as a result of his attitude towards the use of the Internet as a medium to buy. Therefore,

Hypothesis₄: Attitude towards shopping from the site influences positively the intention to buy from the site.

4.3 The Effect of the Intention on the Site Shopping Behaviour

Hine et al. (1986) have shown that although a positive relationship does exist between attitudes and behavior, this relationship is moderated by intentions. The latter are a pivotal concept in both the Reasoned Action and of Planned Behavior theories (Davis, Foxall, and Pallister, 2002). In the TRA, intentions are viewed as behavioral plans that in conjunction with appropriate opportunities and resources enable attainment of a behavioral goal. In the context of recycling behavior, Bolders (1995) concludes that intentions have a direct and positive effect on recycling behavior. This result is found also by many researchers in many domains (e.g. Andrade, 2000; Bellman et al., 1999; Bhatnagar et al., 2000; Chau et al., 2001; Grandon and Ranganathan, 2001; Jarvenpaa et al., 2001; Lee et al., 2000, Sukpanich and Chen, 1999). Hence, we expect a positive and direct effect of shopping

5. Methodology

5.1 The Choice Of Data Collection Instrument

During this study, we led a survey with Tunisian and French online shoppers. Firstly, due to the limited number of online Tunisian shoppers and the absence of databases concerning this subject in Tunisia, we have faced many problems to join our sample. Consequently, we have found that the recourse to many data collection methods is essential. Thus, we have launched an online survey in June 2010. This survey which contains three pages starts with an introduction describing the research's purpose and solicits the benevolence of each receiver to participate in the survey by filling in the attached e-questionnaire or by visiting the web-address containing the questionnaire in question: <http://www.surveymonkey.com/s/7XW6TT9>. In that case, respondents were demanded to answer the questionnaire based on their latest online shopping experiences. According to Romàn (2006), surveying by email possesses numerous advantages over conventional interviewing methods. In fact, it offers a more efficient and convenient form of data collection (Best and Krueger, 2002). The identification of the respondents is done thanks to the social network Facebook where we have tried to look for individuals residing inside and outside of Tunisia. This condition increases the number of responses especially that people abroad have a high likelihood to purchase online. The important rate of Tunisian respondents comes especially from the second category (Tunisian that study, work and live abroad). In addition to this method, we have opted for face to face survey with students from the Higher Institute of Management of Tunis and the Higher School of Commerce of Tunis and other people that possess international credit card. The identification of those people is facilitated by the Tunisian Room of Trade. Thanks to these data collection methods and after one year of research we have obtained 204 valid questionnaires.

Secondly, in order to join French sample, we have resorted to two methods: online survey and face to face collection in order to increase our chances to find an important number.

Since the first method namely online survey gives a very small number, we have opted for face to face survey. Thus, we have consulted the data basis concerning the nationality of tourists who usually visit Tunisia in order to see the rate of French visitors. We find out that they come to Tunisia in big numbers.

5.2 Sample

The unit of analysis in this study is the individual consumers who purchased at least an item online during the last months. This condition facilitates consumers' evaluation of the online retailer's website (Romàn, 2006).

The consultation of the Tunisian descriptive analysis shows that the sample is young (52% of them have an age inferior to 24 years; 42.2% are aged between 24 and 34 years; 3.9% are aged between 34 and 44 years and finally only 2% have an age between 44 years and plus). This shows very well that in the majority of cases students are the most participants in surveys than others. Concerning the sex of the respondents, there are as many males as females 50% equally. The sample is well-educated with 98% of the respondents having a university level and only 2% having lower education (secondary education). Giving the important number of students who participate in our survey, 60.3% have a wage inferior to 500 Tunisian dinar per month; 19.6% having a wage between TD 500 and 700 TD; 18.1% are paid more than TD 900 and only 2% are paid between 700 and 900 dinars.

Concerning the French sample, 132 make the subject of the study. This sample is composed of more males (60.6%) than females (39.4%). 28 subjects have an age inferior to 24 years; 40 subjects are between 24 and 34 years; 21 subjects have an age between 34 and 44 years and finally 41 subjects have an age superior to 44 years. To the level of study, the sample is highly-educated (65.9% compared to 30.3% with secondary level and 3.8% with primary level).

5.3 Measurement

The instrument used in order to measure national culture is a multi-item 7 point scale (1= strongly agree, 7= strongly disagree) adapted from Hofstede's work (2001). In Hofstede instrument, called Value Survey Module 1994, there are five dimensions: power distance, uncertainty avoidance, masculinity/femininity, individualism/collectivism, and long/short term orientation. Four items are used to measure each dimension.

In order to measure attitude, we have adopted the scale developed by Agarwal and Prasad (1999). This scale focuses on the affective dimension of attitude. It is a seven-point Likert scale anchored from (1) strongly agree to (7) strongly disagree. Three items are used to measure it. These items are: (1) It is a lot of fun to shop from this site; (2) I like to shop from this site; and (3)

shopping from this site is attractive.

The measurement of intention to buy from the site is done while referring to the scale developed by Agarwal and Karahanna (2000). This scale focuses on the willingness of the individual to shop from the site. It is a seven-point Likert type where '1' indicates strongly agree and '7' represents strongly disagree. Three items illustrate this scale: (1) I will shop frequently from this site in the future; (2) I intend to shop from this site; and (3) I will shop from this site for a long time.

In order to measure the site shopping behavior, sample is asked to answer the following question: On average, how often do you buy from this site? (Choi, 2001) Less than once per month; (2) about once a month; (3) a few times a month; (4) a few times a week; (5) about once a day; and (6) several times a day

6. Results

6.1 Scale Validity

We have realized a factor analysis for each variable of our model. The following table shows a synthesis of results for both factor analysis and reliability of the Tunisian and French samples.

Concepts	KMO	Test of Bartlett	Dimensions	Number of items	Cronbach's alpha	Cumulative % of information
Tunisian sample						
Culture	.599	119.088	PD	4	.470	36.504
	.502	584.550	IND/COL	4	.980	50.00
	.532	195.761	FEM/MAS	4	.866	88.406
	.612	96.956	UAV	4	.652	59.905
	.676	96.956	LTSO	4	.630	47.719
Attitude	.598	278.270	Attitude	3	.825	74.330
Intention	.725	317.440	Intention	3	.872	79.819
French sample						
Culture	0.500	34.275	PD	4	.648	74.111
	.734	112.695	IND/COL	4	.719	64.329
	.748	175.774	FEM/MAS	4	.818	73.892
	.390	111.894	UAV	4	.431	
	.560	47.490	LTSO	4	.648	41.425
Attitude	.500	124.268	Attitude	3	.630	70.669
Intention	.500	150.132	Intention	3	.718	78.329

The factor analysis of the twenty-items measuring culture in the Tunisian and French contexts shows that the data matrix is factorizable. Four factors are extracted from this factor analysis. All the dimensions present good internal consistencies (alpha of Cronbach ranged from .630 to .980) with the exception of power distance ($\alpha = .470$) for the Tunisian sample and uncertainty avoidance ($\alpha = .430$) for the French sample whose reliabilities are very weak. Consequently, both of them are deleted.

Concerning intention and attitude, they display good internal consistencies. The alpha of Cronbach values vary from .630 to .872.

6.2 Hypothesis Tests

6.2.1 The Effect of Culture on the Attitude towards Shopping from the Site

Culture is a multi-dimensional construct composed of uncertainty avoidance, femininity versus masculinity, individualism

versus collectivism, long-term versus short-term and power distance (Hofstede, 1980).

According to the results extracted from the exploratory factor analysis, only the first four dimensions are retained while the last one is rejected because it displays a Cronbach's alpha that is at the low end of the normally acceptable range for the exploratory research (Román, 2006). Consequently, the regression analysis will concern all the culture's dimensions with the exception of power distance for the Tunisian context and uncertainty avoidance for the French context.

While comparing means of culture dimensions between Tunisia and France, it is noticed that the Tunisian sample has relatively high scores in comparison to the French sample for the dimensions of masculinity (5.260 vs. 4.965) and long-term orientation (5.770 vs. 5.545). The French score concerning the dimensions of individualism is 4.577. Those results are coherent with the proposed scores of Hofstede according to which France is relatively characterized by higher levels of individualism. Pre-established scores for Tunisia do not exist, but our results are coherent with scores of Arabic countries studied by Hofstede.

As shown in table 1, the regression analysis shows that the culture dimensions represent 28.3% of the variance of the attitude towards shopping from the site for the Tunisian sample ($R^2 = .283$, adjusted $R^2 = .264$); and 20.7% for the French sample ($R^2 = .207$, adjusted $R^2 = .182$). Global models are significant for the two contexts and the dimensions whose value of student's t test is inferior to 1.96 and whose impact on the attitude towards shopping from the site are not significant and hence deleted.

Consequently, the hypothesis H_1 concerning the significant effect of culture dimensions on the attitude towards shopping from the site is partially supported for both of the Tunisian and French samples.

6.2.2 The Effect of the Attitude Towards Shopping from the Site on the Intention to Buy from the Site

The regression analysis shows that attitude represents 31.9% of the intention to buy from the site's variance ($R^2 = .319$, adjusted $R^2 = .315$) for the Tunisian sample; and 25.7% for the French sample ($R^2 = .257$, adjusted $R^2 = .251$). Global models are significant [$F_m = 94.501, p = .000$; and $F_{fr} = 44.917, p = .000$].

Tunisian sample	$R^2 = .283$, adjusted $R^2 = .264$, $F = 15.594$, $p = .000$
Attitude towards shopping from the site = constant – .661 Individualism/collectivism ($t = -3.795$, $p = .000$) + .484 Femininity/masculinity ($t = 8.025$, $p = .000$) +.017 Long/short term orientation ($t = .274$, $p = .784$) + –.016 Uncertainty avoidance ($t = -.480$, $p = .632$)	
French sample	$R^2 = .207$, adjusted $R^2 = .182$, $F = 8.290$, $p = .000$
Attitude towards shopping from the site = constant +. 296 Individualism/collectivism ($t = 3.485$, $p = .001$) +.280 Femininity/masculinity ($t = 3.002$, $p = .003$) – .377 Long/short term orientation ($t = -4.463$, $p = .000$) –.110 Power distance ($t = -1.205$, $p = .231$)	

Table 1. The Impact of the Culture Dimensions on the Attitude Towards Shopping from the Site

Tunisian sample	$R^2 = .033$, adjusted $R^2 = .028$, $F = 6.826$, $p = .010$
The site shopping behaviour = constant + .181 intention to buy from the site ($t = 18.643$, $p = .000$)	
French sample	$R^2 = .078$, adjusted $R^2 = .071$, $F = 10.939$, $p = .001$
The site shopping behaviour = constant + .279 intention to buy from the site ($t = 3.307$, $p = .000$)	

Table 3. The Impact of the Intention to Buy from the Site on the Site Shopping Behaviour

The attitude's impact on shopping from the site for the intention to buy from that site (H_2) is positive and significant for the two contexts. Consequently, hypothesis H_2 is supported.

5.2.3 The effect of the intention to buy from the site the shopping from the site behavior

Comparing to our theoretical estimations about the strong weight of the intention in predicting the actual behavior, the findings of the regression analysis show that the intention to buy from the site represents only 3.3% of the variance of the site shopping behavior ($R^2 = .033$, adjusted $R^2 = .028$) for the Tunisian sample; and 7.8% for the French sample ($R^2 = .078$, adjusted $R^2 = .071$). Global models are significant for the Tunisian ($F_m = 6.826$, $P = .010$) and the French contexts ($F_{fr} = 10.939$, $p = .001$).

Consequently, H_3 relative to the positive and significant effect of the intention to buy from the site on the site shopping behaviour is supported.

7. Conclusion

Throughout this work we have pointed like Slyke et al. (2005) to the importance of the Web-based e-commerce aspect of the worldwide commerce. Many developed countries have experienced e-commerce growth. However, the developing countries especially the Arab world still lag behind expectations. From this point, a research has been led in order to study the culture's weight in the explanation of the online shopping behavior.

Five dimensions (individualism/collectivism, masculinity/femininity, uncertainty avoidance, power distance, and long/short term orientation) are thus adopted to conceptualize the culture concept. These variables are expected to affect the attitude towards shopping from the site. The cultural values are believed to be underlying tendencies that affect consumers' attitude and intention.

The findings of this study suggest that while the overall factors underlying the attitude and the intention to shop from the site is roughly similar across countries, there are differences in the relative importance of those factors. Two conclusions can be drawn based on these findings:

Firstly, Tunisia appears to have high scores concerning cultural values of collectivism and masculinity. These findings are close to the Arabic scores found by Hofstede (appendix). In fact, pre-established scores concerning Tunisia do not exist. These cultural values appear to be determinants of the attitude towards shopping from the site in the Tunisian context. Individualism and the short-term orientation values of culture seem to have significant impacts on the French sample's attitude towards shopping from the site. As a consequence, the hypothesis that we have predicted during the beginning of this work concerning the significant impact of cultural values on the attitude is partially supported for the two studied contexts. Moreover, Tunisian and French samples present relatively the same rate of cultural importance in their relationship with the attitude towards shopping from the site (28.3% vs. 20.7%).

Secondly, similar to literature (i.e. Chang et al. 2005), the attitude is the predictor of the intention to shop from the site and this intention succeeds to be the intermediary variable between attitude and behavior especially for the Tunisian sample. Thus, when the attitude is positive, it will be transformed in an intention which in turn will be translated into a behavior.

8. Implications

Although its partial influence on the attitude towards shopping from the site in the two studied contexts, culture remains an important variable that has its weight in the determination of people's decision-making over online shopping's adoption in general and shopping from the site in particular. The results that we have discovered concerning the effect of culture on the attitude of the Tunisian sample may be influenced by the phenomenon of acculturation. In fact, the majority of respondents do get online shopping from abroad such as France, New York and Germany. Undoubtedly, there are samples of the Tunisian society especially those of high social class that have no problem with this procedure. In fact, they claim their dire need for good technological infrastructures to purchase.

The causal relationship between culture and attitude increases our understanding of consumers' adoption of an innovative medium that is to say shopping from the site in the context of cultural values at a universal level. Taking the Tunisian sample as an example, the findings suggest the extent to which the cultural values of collectivism and masculinity play an important role in the determination of causes behind the delay as for shopping from the site and how the low level of power distance and masculinity, the importance of individualism and the short orientation affect the French attitude towards shopping from the site.

9. Contributions and Recommendations

1. The examination of two different contexts at the same time shows to which degree culture with its five dimensions can explain the difference at the level of merchant website shopping adoption in both Western and non-Western countries.
2. The partial support of hypotheses may lead to the adoption in a new conceptual framework of other variables that could explain the online shopping behavior. Among those variables, we can take into consideration the absence of a good infrastructure, the use of sensitization campaigns concerning the importance of e-commerce for people, the reduction of expansion for firms to be online, resource availability and Internet access availability. In his book entitled "*Problems in the Islamic Life*," Elghazali (1963) highlights that between factors that can explain the recoil of the Arab people is the bad president's policies, the individual governance and consequently their dictatorship.
3. Tunisia is a country where the middle and lower classes dominate; a fact that makes the online shopping adoption a little difficult. Actually, they prefer to pay cash, go to supermarkets and weekly markets where they can touch and compare goods, negotiate price and consequently decide what kind of products they could select. Consequently, we recommend conducting a qualitative research that tries to put the accent on the true variables that facilitate and inhibit people to adopt online shopping.
4. In spite of the reduced number of our sample, we have resorted to online "*real*" shoppers which is in itself a contribution facing the proliferation of marketing studies led by a population of students.

10. Limitations

This study is subject to several limitations. These are some of them:

First, this study stresses only the impact of culture on the attitude towards shopping from the site. Other factors related to e-commerce infrastructure as well as the nature of laws governing e-commerce especially in Tunisia are not examined in this study.

Second, this research is wholly conducted for Tunisian people who purchase online but from abroad not locally given the absence of a master card, the purchasing procedures' length and even the absence of a sufficient number of e-firms. As a result, the reduced size of our sample is an obstacle to use the structural equations. Besides, contrary to our hypotheses concerning Tunisian sample, the results are very close to those of French's sample. These findings are due especially to the fact that the Tunisian respondents have absorbed the culture of the country in which they live.

Third, the bad conditions that Tunisia have gone through during the last two years (the Tunisian Revolution of January 14th, 2011) have made the data collection very hard with tourists.

References

- [1] Al-Gahtani, S. S., Hubona, G. S., Wang, J. (2007). Information technology (IT) in Saudi Arabia: Culture and the acceptance and use of IT, *Information and Management*, 44, p. 681-691.
- [2] Ajzen, I., Fishbein, M. (1980). Understanding attitudes and predicting social behaviour, *Englewood Cliffs NJ: Prentice-Hall*.
- [3] Ajzen, I., Fishbein, M. (2000). The prediction of Behaviour from attitudinal and normative variables, *Psychology Press*, Philadelphia PA.
- [4] Bhatnagar, A., Misra, S., Rao, H. R. (2000). On Risk, convenience, and internet shopping behavior, *Communications of the ACM*, 43 (1) 98-105.
- [5] Doney, P. M., Cannon, J. P., Mullen, M. R. (1998). Understanding the influence of national culture on the development of trust, *Academy of Management Review*, 23, p. 601-620.
- [6] Fang, H., Zhang, J., Bao, Y., Zhu, Q. (2013). Towards effective online review systems in the Chinese context: A cross-cultural empirical study, *Electronic Commerce Research and Applications*.
- [7] Grandon, E. E., Pearson, J. M. (2004). Electronic commerce adoption: an empirical study of small and medium US businesses, *Information & Management*, 42 (1) 197-216.
- [8] Gefen, D., Straub, D.W. (1997). Gender differences in perception and adoption of e-mail: An extension to the technology acceptance model, *MIS Quarterly*, 21 (4) 389-400.
- [9] Goode, S., Stevens, K., (2000). An analysis of the business characteristics of adopters and non-adopters of WWW, *Technology Information and Management*, 1 (1) 129-154.
- [10] Hofstede, G. H. (2001). Culture's Consequences: Comparing Values, Behaviors, Institutions and Organizations across Nations, *Sage Publications: Thousand Oaks, CA*.
- [11] Hofstede, G., (2001). Culture's Recent Consequences: Using Dimension Scores in Theory and Research, *International Journal of Cross Cultural Management*, 1 (1)11-30.
- [12] Hofstede, G. (2005). VSM 94, Manual. Retrieved from <http://www.geert-hofstede.com>.
- [13] Hofstede, G., Hofstede, G. J. (2005). Cultures and organizations: Software of the mind, *New York, NY: McGraw-Hill*.
- [14] Humphrey, J., Mansell, R., Pare, D., Schmitz, H. (2003). The Reality of E-commerce with Developing Countries, *Media@LSE*.
- [15] Henry, W. A., (1976). Cultural values do correlate with consumer behaviour, *Journal of Marketing Research*, 13, 121-127.
- [16] Hine, C., Eve, J. (1998). Privacy in the marketplace, *The Information Society*, 14, 253-262.
- [17] Kale, S. H., Barnes, J. W. (1992). Understanding the domain of cross-national buyer-seller interactions, *Journal of International Business Studies*, 23 (1) 101-132.
- [18] Kroeber, A., Kluckhohn, F. (1952). Culture: A Critical Review of Concepts and Definitions, *Cambridge, MA: Peabody Museum*.
- [19] Lim, K. H., Leung, K., Sia, C. L., Lee, M. K. (2004). Is e-Commerce boundary less? Effects of individualism-collectivism and uncertainty avoidance on Internet shopping, *Journal of International Business Studies*, 35, p.545-559.
- [20] Lippert, S. K., Forman, H. (2005). Utilization of information technology: Examining cognitive and experiential factors of post-adoption behaviour, *IEEE Transactions on Engineering Management*, 52 (3) 363-381.
- [21] McCort, D. J., Malhotra, N.K. (1993). Cultural and consumer behavior: toward an understanding of cross-cultural consumer behavior in international marketing, *Journal of International Consumer Marketing*, 6 (2) 91-127.
- [22] Mollaa, A., Lickerb, P. S. (2005). e-Commerce adoption in developing countries: a model and instrument, *Information and Management*, 42, p. 877-899.
- [23] McKnight, D. H., Choudhury, V., Kacmar, C. (2002). Developing and validating trust measures for e-Commerce: an integrative typology, *Information Systems Research*, 13 (3) 334-359.
- [24] Merliere, Y, Jacomet, D., Chaballier, E. (2011). L'Impact du commerce électronique en matière de soldes et de promotion, *Institut Français de la Mode*, Paris.

- [25] McKinsey Report. (2011). Impact d'Internet sur l'économie française, Paris.
- [26] Ndyali, L. (2013). Adaptation and barriers of E-commerce in Tanzania small and medium enterprises, *Developing Country Studies*, 3 (4).
- [27] Oxley, J., Yeung, B. (2001). E-commerce readiness: institutional environment and international competitiveness, *Journal of International Business*, 32 (4) 705–724.
- [28] Roman, S., (2007). The Ethics of Online Retailing: A Scale Development and Validation from the Consumers' Perspective, *Journal of Business Ethics*, 72, p.131–148.
- [29] Shek, S. P. W., Sia, C. L., Lim, K. H. (2003). A preliminary assessment of different trust formation models: the effect of third party endorsements on online shopping, *In: Proceedings of the Hawaii International Conference on System Sciences (HICIS)*, Maui, Hawaii.
- [30] Shemi, A. P., Procter, C.T. (2013). Challenges of E-Commerce Adoption in SMEs: An Interpretive Case Study of Botswana, *Botswana Journal of Business*, 6 (1).